

MILITARY SPECIFICATION SHEET

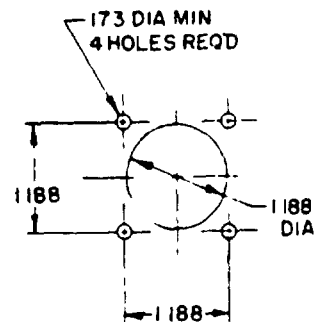
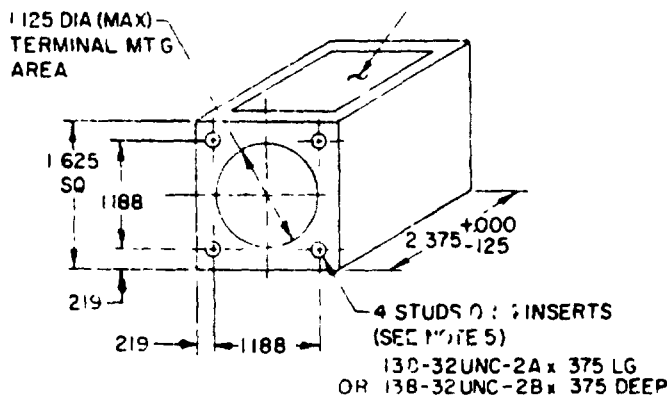
TRANSFORMER, AUDIO FREQUENCY, TF4R21AJ002

This specification is approved for use by all Departments and Agencies of the Department of Defense.

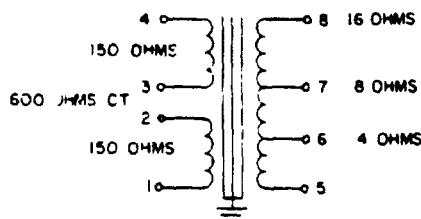
The complete requirements for procuring the transformer described herein shall consist of this document and the latest issue of Specification MIL-T-27.

CIRCUIT DIAGRAM & MARKING
 READABLE WITH TRANSFORMER
 IN THIS POSITION

MINIMUM CHASSIS CUTOUT



300 TO 10,000 Hz
 POWER LEVEL 2 W MAX
 WORKING VOLTAGE 175 V MAX



INCHES	MM
.125	3.18
.138	3.51
.219	5.56
.375	9.53
1.125	28.58
1.188	30.18
1.625	41.28
2.375	60.33

MAX ALTITUDE 50,000 FT

CIRCUIT DIAGRAM and MARKING

NOTES

- Dimensions are in inches
 - Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm
 - Unless otherwise specified, tolerance on overall case dimensions is + .000 (.00 mm) - .063 (1.60 mm)
 - Tolerance on mounting dimensions is + .016 (.41 mm).
 - Inserts not recommended for new design.
 - Terminal arrangement optional within mounting area indicated.
1. When numbers in parentheses, e.g. (1-2), are used, they indicate the winding and the extreme terminals of the winding. When the extreme terminals of two windings are used, e.g. (1-4), the windings are connected in series, i.e., terminals 2 and 3 are connected.

REQUIREMENTS:

Electrical rating:

Primary power level - 2 W, maximum; .1 W, minimum.

Working voltage (1-2) - 175 V, maximum.
(3-4) - 175 V, maximum.
(5-8) - 175 V, maximum.

Primary impedance (1-2) - 150 ohms.
(3-4) - 150 ohms.
(1-4) - 600 ohms ct.

Design, configuration, and physical dimensions: See figure.

Material: Metal encased, steel.

Weight: .72 pound, maximum.

Duty cycle: Continuous.

Altitude: 50,000 feet, maximum.

Life expectancy: 10,000 hours, minimum.

Temperature range: -55°C to 105°C.

Terminals: Solder terminals, No. 20 AWG.

Terminal height: .312 (7.92 mm) $\begin{smallmatrix} +.000 \\ -.156 \end{smallmatrix}$ (3.96 mm)

Terminal strength: Method 211 of MIL-STD-202, test condition A, 5 pounds.

Operating temperature: 105°C, maximum.

Dielectric withstanding voltage: Method 301 of MIL-STD-202, test voltage at sea level, 500 Vrms. At reduced barometric pressure, 300 Vrms.

Electrical characteristics:

Harmonic distortion - Not more than 1 percent with 35 V, 300 Hz across (1-4).

No load - With 35 V, 1,000 Hz across (1-4).
(center-tap
voltage unbalance Unbalance (1-2) and (3-4) - 1 percent, maximum.
only)

Secondary load impedance (5-8) - 16 ohms.
(5-7) - 8 ohms.
(5-6) - 4 ohms.

Primary impedance - With approximately 2 V, 1,000 Hz across (1-4) and 16 ohms across (5-8), the primary impedance shall be 600 ohms ct ± 10 percent across (1-4).

Frequency response:

Range - 300 to 10,000 Hz at rated power, flat within ± 2 dB, reference frequency = 1,000 Hz, test voltage 2 Vrms (1-4).

Insertion loss - 1.0 dB maximum, with 35 V, input at 1,000 Hz across (1-4).

Resonance - Second resonant frequency = 20,000 Hz, minimum.

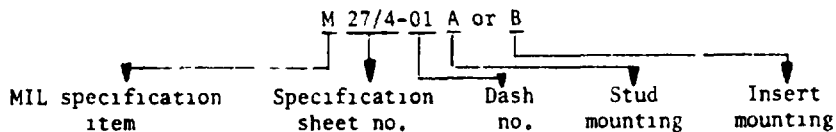
Polarity - Additive, with terminals 2 and 3, and 4 and 5 connected.

Temperature rise: 20°C maximum, above an ambient of 85°C, with rated power at 300 Hz.

Vibration, high frequency: Method 204, test condition B.

Shock (specified pulse): Method 213, test condition I.

Part number example:



(For cross reference of MS part number to military part number, see table I.)

TABLE I. Cross reference.

Mounting	MS90001B		M27/4	
	Dash no.	Type designation	Dash no.	Type designation
Studs	-A	TF4RX16AJ002	-01A	TF4R21AJ002
Inserts	-B	TF4RX16AJ002	-01B	TF4R21AJ002

Custodians

Army - EL
Navy - EC
Air Force - 85

Review activities:

Army - EL, MU
Navy - EC
Air Force - 11, 17, 80, 85
DSA - ES

User activities:

Army - ME
Navy - MC, AS
Air Force - 19

Preparing activity:

Army - EL

Agent:

DSA - ES

(Project 5950-0485-2)

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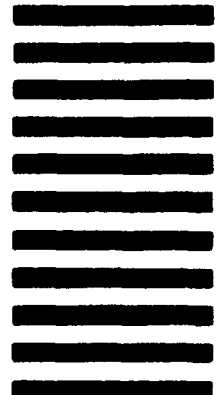
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2. DOCUMENT TITLE

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4. TYPE OF ORGANIZATION (Mark one)

☐ VENDOR

☐ USER

☐ MANUFACTURER

☐ OTHER (Specify) _____

b. ADDRESS (Street, City, State, ZIP Code)

5. PROBLEM AREAS

a. Paragraph Number and Wording

b. Recommended Wording

c. Reason/Rationale for Recommendation

6. REMARKS

7a. NAME OF SUBMITTER (Last, First, MI) - Optional

b. WORK TELEPHONE NUMBER (Include Area Code) - Optional

c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional

8. DATE OF SUBMISSION (YYMMDD)

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